MEMORISATION: AN APPROACH FOR THE PIANIST

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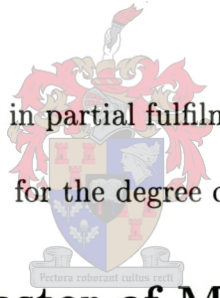

Assignment presented in partial fulfilment of the requirements

for the degree of

Master of Music

at the

University of Stellenbosch

Supervisor: Dr M Smit

December 2001

Declaration

I, the undersigned, hereby declare that the work contained in this assignment is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

PETRO MARIETHA ENGELBRECHT Date:

Abstract

Two of the most frequently reported performance problems amongst musicians are memorisation and performance anxiety. For the purposes of this study, memorisation is investigated regarding its importance in a musician's life; different faculties of memorisation are discussed; and practice methods are proposed providing the memoriser with maximum memory security and confidence. Performance anxiety, as a corollary of memory insecurity, is investigated regarding its symptoms, causes, and possible cures.

It was found that memory insecurity and extreme performance anxiety result because of insufficient or inadequate practice and/or a lack of trust in the musician's own abilities. Musicians should prepare the best they can and then, during performance, they should put trust in the preparation that has been done. A healthy self-esteem, as well as good health, are requisites for success as a performer. It was also found that performers should concentrate less on the feat of technique and memory, and more on making music.

Opsomming

Memorisasie en verhoogvrees is twee van die grootste probleme wat deur uitvoerende musici aangemeld word. Die belangrikheid van memorisasie word ondersoek; die verskillende faktore daarby betrokke word bespreek; en oefenmetodes word voorgestel om die memoriseerder te vergewis van maksimum geheue-sekerheid. Verhoogvrees, as 'n uitvloeisel van memorisasie, word ondersoek ten opsigte van sy simptome, oorsake en moontlike oplossings.

Daar is bevind dat onsekerheid betreffende die geheue sowel as ekstreme verhoogvrees die gevolg is van onvoldoende voorbereiding en/of 'n gebrek aan selfvertroue in die musikant se eie vermoëns. Musici moet bloot na die beste van hul vermoëns oefen; tydens die optrede moet daar dan vertroue geplaas word in die voorbereiding wat getref is. 'n Gesonde selfbeeld, saam met goeie gesondheid, is vereistes vir 'n uitvoerende kunstenaar om suksesvol te kan wees. Daar is ook bevind dat uitvoerders minder op die oorwinning van tegniek en geheue moet konsentreer, maar wel meer daarop moet konsentreer om musiek te maak.

To those who care

Acknowledgements

The following people contributed to the success of this work:

- Dr Smit, my supervisor, for her valuable support and time.
- Mr van Eeden, my piano teacher, for giving me the inspiration and motivation.
- My mother, who generously did the typing.
- My brother, Andries, who compiled and printed the thesis.

Contents

Chapter 1

Introduction

"Memories are made from the present

and experience thus gained;

anxiety is experienced in the present tense.

Therefore the only time to live for,

is the present."

-Author unknown.

Memory and anxiety are part of every human being's life since birth. Without them life would be meaningless: without memory it would be impossible to relate past with present and future affairs, and no associations with fellow human beings would be possible; without anxiety life would be dull. Although people usually try to avoid anxiety, it does add excitement to life: studying on adrenaline for an examination, rushing to a meeting, a

surgeon performing a rare operation, and, of course, performing music on stage.

Memorisation, i.e. the memorising of music and playing from memory, and performance anxiety are the two most frequently mentioned problems pianists have to deal with. These two problems bind all performing pianists together. Still, people differ with regard to their perception and reaction to memorisation and performing anxiety. For some memorisation is easy. More often than not, these musicians do not know how they memorise - it just happens. In such cases, when the musician plays from memory under pressure, the retrieval from memory fails because of the unknown nature of the memory imprint. Memorisation of this "natural" sort is thus not infallible. On the other hand there are those unfortunate musicians who seem to be unable to memorise music. They find it difficult to memorise and retain what is memorised for a long period of time. Fortunately, there is a solution to this problem: systematic, regular, daily practice done in an attentive manner.

Performance anxiety is food and drink to some performers - they thrive on it. For them, performance anxiety brings out the best during a performance. Unfortunately, there are those to whom it is torture to go through the symptoms of performance anxiety because of the negative influence it has on their performance quality. This often leads to these musicians making a career change - an unnecessary move. With help and hard work the influence of performance anxiety can be swung around from being negative to being positive. Anxiety cannot be prevented totally, and the existence thereof is not a choice for the musician. What the musician can choose, is how to react to the anxiety experienced. Frequently musicians deny the existence of performance anxiety, or they are so overwhelmed

by it that they loose composure altogether. The musician should learn to deal with performance anxiety. The performer should never be controlled by performance anxiety, but should learn to channel it to achive the best results. Many roads exist to this destination of success. Musicians should take courage, and experiment to find the best coping method for themselves individually.

1.1 Problem Statement

Many musicians experience anxiety when the time for a memorised performance has come. Often the problem faced by the performer is: "Can I get through the piece without a memory failure?", instead of: "Will I do justice to the piece musically?" This study wants to shift the emphasis placed on playing music from memory to playing music from the heart. The importance of memorisation will be investigated, and different faculties and practice methods of memorisation will be sought for in order to provide the memoriser with maximum security and confidence. It seems as if performance anxiety plays a role in the efficient - or rather, inefficient - retrieval of memories. Therefore performance anxiety will be researched with regard to its symptoms, causes, and possible solution, thus providing the musician with the necessary knowledge to overcome this performer's obstacle. Finally, it will be up to every musician to experiment with the suggestions made to find a method with which memorisation and performance anxiety will no longer be seen as ordeals but as aids to increase performance quality.

In 1995, A.M.F. de Villiers conducted research on memory lapses in piano performance. Seeing that her research emphasizes general theories on, approximations to, and systems of memory, it differs greatly from this research which is specifically a piano orientated approach on the subject of memory. Although the title of De Villiers' thesis indicates that she investigated the problem of memory lapses specifically with regard to piano performance, this author feels that the research by De Villiers is rather an overview of memory than a specialisation in the memory of music by pianists. The aim of the present study was to emphasize issues of a practical nature which can enhance a musician's memory with regard to efficiency and retainability, bringing with it more security and confidence when playing/performing from memory.

1.2 Structure of Chapters

This thesis consists of six chapters. Because performance anxiety is only a corollary to the actual subject of memorisation, only chapter 5 is devoted to it. Chapters 2 to 4 discuss the subject of memorisation.

This chapter introduced the problem(s) to be investigated. In the next chapter the arguments for and against memorisation are raised and compared with those of sight reading. Certain terms regarding memory are defined. The background of playing from memory also receives attention. Chapter 3 discusses the different faculties used during the memorisation process and their interrelationship with one another, i.e. the visual, auditory,

muscular, analytical, and emotional faculties. The information contained in this chapter was collected by means of a literature study and personal interviews with two leading South African performing pianists. Chapter 4, the last on the subject of memorisation, is a more practical approach to the problem of memorisation. Possible reasons for memory lapses are mentioned, and six steps leading to memory security are proposed by the author. Controversy exists with regard to many aspects of memorisation and practice. These aspects are discussed throughout this chapter, looking at advantages and disadvantages of each one to inform the memoriser of every aspect involved in the process of memorisation. Chapter 5 deals with the subject of performance anxiety, defining it and describing its symptoms, as well as its consequences for the memorisation process. Possible reasons for performance anxiety are given as well as some coping strategies, including practice methods, relaxation techniques, psychological and pharmacological treatments. A conclusion is reached in chapter 6, giving guidelines for memorisation and recommendations for further research.

1.3 Methodology

Information was gathered by means of a literature study, utilising the electronic media as well. The focus of the study was on the practical problems musicians, especially pianists, experience with memorisation, also looking at the influence of performance anxiety thereupon. Two leading South African performing pianists were interviewed with regard to their opinion and experience on the subject. The author's own experience was also used

with regard to some practical suggestions.

Chapter 2

Why Memorise Music?

There are arguments both for and against memorising music for the purpose of performing it from memory. Performing music from memory is a fashion of this time, dating back to Frans Liszt and Clara Schumann[1] (Granger 1977:29). Thus, it is expected of a performer to play from memory (Rider 1980:94). Many competitions also stipulate in their rules the precondition of playing the music from memory. In this chapter both the reasons for and against memorisation are discussed and a comparison between memorisation and sight reading is drawn. Certain terms regarding memory are defined and a background to memorisation is given.

One of the many reasons put forward in favour of memorising music, is that numerous

[1]Dr. Frederick G. Shinn in his *Musical Memory*, as referred to by Cooke (1979:34), gives credit to Sir Charles Hallé for setting the custom of giving a piano recital entirely from memory. The initial event took place in 1861 at the St. James Hall in London when he undertook to play all of the Beethoven Sonatas from memory during a series of recitals.

occasions occur when musician and instrument are together without a copy of the music (Cumberland 1927:33). Any musician's friends, at one time or another, request some music to be played, and if the music is not memorised, the musician is unable to play anything. This usually leads to the friends or spectators becoming irritated with the musician's inability to play music - a very unfortunate incident which occurs much too often. Performing from memory also gives musicians the opportunity to play a piece, or even a whole program, at a moment's notice (Binkowski 1986:38).

The most popular argument in favour of memorising music, is that a memorised piece is usually more thoroughly learned and understood than one not memorised (Granger 1977:29, Jordan-Anders 1995:8). It provides a feeling of security (Brown 1995:11, Hallam 1997:96), enabling the performer to concentrate on interpreting the music and expressing that part of the music which comes from inside a person (Green with Gallwey 1987:72, Rider 1980:92). According to Busoni, playing from memory gives the performer greater freedom of expression (Rider 1980:92). Cooke (1979:21) uses the phrase *playing by heart* because when a piece is memorised, it is so well-known that it becomes a part of the performer so much that *playing by heart* is an exact description of what is being done during a performance. Paderewski, quoted by Cooke (1979:19), once said:

> "It is incomprehensible how anyone can play a composition effectively until it is memorised. Then and then only is one not constrained by printed notes, by fingering, by technical details, and can give one's full attention to the interpretation from an aesthetic, spiritual, and artistic standpoint."

Memorising music is an integral part of studying a major composition and learning to perform it (Rider 1980:94). A rapidly moving piece must be memorised even before it can be practised because of the reading difficulties (Granger 1977:29). According to Cumberland (1927:31) the finest kind of interpretation suggests improvisation. Improvisation gives the idea of freedom and unpredictability: the music seems free, the performer seems free but in control, and this gives the listener the opportunity to also be freed and to become involved in the essence of the music. Thus, when playing from memory, communication is facilitated between the performer and the audience (Hallam 1997:96), resulting in a more convincing performance and a better impression on the audience (Rider 1980:94). Playing from the printed music can be seen as a barrier between these two parties, obstructing the flow of communication. The score could turn out to be a bigger interference than an aid: the use of the score and a page turner is distracting to the audience as well as the performer (Rider 1980:94), and it disturbs the concert atmosphere (Lhevinne 1972:41).

On the other hand, memorising music does take up a considerable amount of time and therefore limits the musician's repertoire (Bryant s.a.:27, Rider 1980:92). Another major concern raised against memorising music and playing from memory, is that of a potential memory lapse lurking around every corner. Critics of memorisation say it causes unnecessary tension and anxiety (Rider 1980:92), so much so that it can interfere with the performance, bringing the quality down. Memory problems interfere with the creative process of music making and it deprives the performer of the enjoyment which could have been experienced in the absence of such extreme anxiety (Pro 1980:3). Forcing someone to

memorise music and perform from memory can, in a worst case scenario, lead to a loss of love for music (Maier 1942:16). According to Percy Aldridge Grainger, an Australian-born pianist and composer, three parties suffer under memorised performances:

1. **The performer** suffers agonies of apprehension, and therefore the performer's whole mind cannot be devoted to the emotional and aesthetic messages of the music.

2. **The public** suffers because of inferior memorised performances.

3. **The music** suffers the most because of wrong notes being played, passages being left out and interpretations which are inadequate because the performer is concentrating on the feat of memory instead of on the revelation of an art (Cooke 1979:86-7).

Musicians should determine the role memorisation needs to play in their musical lives. If a performing career is out of the question and memorisation is seen as an impediment, it most certainly is not necessary to agonise over it. It is then better for the musician to rather read more music to broaden the overall knowledge of repertoire. But, if it is the musician's choice to pursue a solo performing career, the arguments tend to be in favour of a memorised performance. Every performer should investigate the degree of performance anxiety[2] resulting from playing from memory. If it is severe and has shown to be incurable, it would be wise for the performer to consider a change in career from solo performance to accompanying or ensemble playing where using the score is customary.

[2]The subject of performance anxiety is discussed in detail in chapter 5.

2.1 Terminology Regarding Memory

The acquisition of any knowledge always implies some kind of "memorising," even if the purpose is not to speak or play without some form of written help (Matthay 1926:1). Matthay (1926:1) differentiates between **memorising** and **memory-use**. The former involves the process of committing something to memory whereas the latter implies the actual playing from memory, i.e. the retrieval of already committed information. Spender and Shuter-Dyson (1980:418) use the term **memory** instead of **memory-use**.[3] According to them, **memorising** is distinguished from **playing from memory** by the following characteristics:

- **intentionality** - memorising music is an intentional act of the will whereas retrieval takes place automatically when performing from memory.
- **analysis and synthesis** - during the process of memorising music, every detail must be analysed for greater security; when playing from memory all these details must be synthetised into a unity.
- **long-term consolidation** - when memorising music, the imprints are being made on the long-term memory; when playing from memory it is brought forward to the short-term memory.

[3]In this thesis the phrase **playing/performing from memory** will be used when referring to Matthay's **memory-use** or Spender and Shuter-Dyson's **memory**.

- **integration of imagery or internal representations** - these representations can be symbolic, auditory, visual and/or kinaesthetic. During the memorising process images are thought out and associated with certain passages, securing the memory and making the actual performing from memory - when these images or internal representations are used to trigger the memory - easier.

The term **memorisation** seems to apply to both **memorising** and **playing from memory**, i.e. to both the learning process and the retrieval from memory. According to Mainwaring (1954:669) memorisation is a deliberate process of learning which, in musical experience, strives to enable the mental, vocal or instrumental reproduction of an item of music without external aid. On the other hand, Eaton (1978:8) describes memorisation as a skill which involves the ability to reproduce a musical composition at the instrument without the aid of notation after prior study.[4]

Performing from memory requires skill and proficiency based on the mental capacity or faculty to retain and revive impressions or to recall and recognise previous experiences (Bryant 1999:28). Memory is that faculty by which sensations, impressions and ideas are recalled (Dorland 1994:1009). It is the nervous system's retention of a dynamic physical record of previous experiences, being perceptual, cognitive, emotional or kinaesthetic (Spender and Shuter-Dyson 1980:410). Memory refers to some kind of retention, whether it is for seconds, hours or a lifetime. Boncompagno, as referred to by Yates (1966:58), said that memory is the gift of nature: with it the past can be recalled, the present embraced

[4]In this thesis the term **memorisation** will imply both **memorising** ánd **playing from memory**.

and the future contemplated through their likeness to the past.

Building the memory is a continuous process, involving memory[5], perception, learning, language and problem solving, as well as encoding, storage and retrieval of information (Bryant s.a.:1). It includes learning that has occurred either intentionally or unintentionally, self-directed or by instruction, and either by repetition or by single contact. Musical memorising is therefore an intentional registration in memory which, except for a very few musicians who have total recall, usually involves repetition (Spender and Shuter-Dyson 1980:410).

2.2 Background Study

Memorising an art form such as music differs from the memorising taking place in other professions because of the great detail needing personal attention, as well as the considerable speed at which retrieval has to take place (Hallam 1997:57). It demands the memorising of digital skill as well as that of printed symbols and musical tones (Cooke 1979:41). Musical memory is a part of the musician's equipment and makes out an integral part of the composition for a solo pianist, just as much as the dynamics, rhythm, etc. (Brown 1995:11).

Great pianists have an average of two to three hundred memorised works in their repertoire and, according to Cumberland (1927:29), the normal, average pianist should be able

[5]Here the term **memory** refers to the ability to remember.

to manage having fifty pieces memorised. Many degrees of different capacities for memorising exist, varying from individual to individual. Some forget easily, usually because of insufficient concentration during the initial attempt. Others need to hear a piece of music only one time to be able to transcribe it for orchestra: Felix Mendelssohn-Bartholdy heard an anthem by Thomas Attwood[6] and returned to Germany wanting to transcribe the anthem for orchestra. Attwood wrote to Mendelssohn asking him whether he (Mendelssohn) would really orchestrate his (Attwood's) anthem. To this Mendelssohn replied by sending Attwood the anthem correctly and effectively orchestrated (Cooke 1979:36). Another astonishing feat of Mendelssohn's memory was performed on an occasion when Ferdinand Hiller was asked to play Beethoven's third piano concerto. It was found that all the French horn parts were missing. Mendelssohn offered to supply these parts from memory - it was correct to the last note. Another story often being told, is that of Mozart writing down Allegri's *Miserere* perfectly after being able to hear it only once (Cooke 1979:35). Other feats of unusual memorising are recorded, such as virtuosi learning an entirely unfamiliar concerto while en route on a railway train.[7] This is only possible if the memoriser (the person who needs to memorise) possesses a good musical background, i.e. a well developed technical basis, and a thorough knowledge of theory, harmony, etc. In other words, the memoriser must possess musicianship. Not everybody can be a genius, unfortunately. Even great musicians have also shown to experience difficulty with memorisation: Myra Hess played from memory but the music was on the rack ready for reassurance if need be (Keeney

[6]Thomas Attwood (1765-1838) was an organist at St.Paul's in London at that time, as well as at the King's Private Chapel (Cooke 1979:36).

[7]Hans von Bulow had often done this kind of memorising on the way to a concert (Cooke 1979:43).

1979:40); Clara Schumann sat on her copy of the music for reassurance (Matthay 1926:20); and Raoul Stéphane Pugno also had difficulty with playing from memory. Charles Rosen played Elliot Carter's Sonata twenty times from memory without a problem; when someone exclaimed that it is impossible to play that music from memory he became nervous and omitted a page of the fugue during the concert, with Elliot Carter in the audience. Since that experience, Rosen always used the score during performances (Young 1996:7).

A number of musicians claim to be unable to memorise music but, as the old saying goes, *where there is a will, there is a way.* If a student finds memorising difficult, it is not necessarily the result of a "bad" memory but rather of an untrained one (Pro 1980:3, Cumberland 1927:30). Memorising music requires a technique which will develop with time and practice. The first piece being memorised will always be the most difficult. The four components with which memorisation will become easier, are practice, persistence, time and training (Lhevinne 1972:42). It must always be remembered that everybody has their own set of limits. To some people memorisation comes naturally and they need fewer repetitions to secure their musical memory (Reubart 1985:83); to others memorisation is a challenge consuming time and hard work.

Controversy exists when the subject of the complexity of memorisation is raised. Pro (1980:3) believes the memory process to be perhaps the most complex component of music-making. In contrast with this statement, Cumberland (1927:30) reckons it to be one of the lowest functions of the brain. Many individuals with weak mental abilities have shown to possess an astonishing capacity for memorising (Cooke 1979:42). Therefore there are some

grounds for the tendency among some educators and psychologists to belittle memorisation in comparison with other brain functions. But, memorising music is considered the most involved system of coordination of the mind, nerves and muscles (Cooke 1979:42). Every human being has some kind of memory, otherwise no associations with past, present and future, or with the people around the person would have been possible. This component of memory in itself is a low function of the brain. The process of memorising music, the intentional learning process, though, is one of extreme complexity, combining the nervous system, the muscles, the brain, and three of the human senses (sight, aural and touch) together for the sole purpose of being able to commit and retrieve music at will.

2.3 Memorising vs Sight Reading Music

Sight reading is often disregarded by many musicians, especially those pursuing a solo performing career. This is a shame - sight reading should be an essential skill for every serious musician because of the many advantages it brings with regular practice. Erno Dohnányi, referred to by Eaton (1978:3), believes sight reading music broadens the musician's knowledge of music literature and improves the musician's overall sense of style, bringing with it a feeling of security of the fingers. Sight reading increases the musician's familiarity with the keys, accidentals, rhythm, chords and passage-work patterns. This eases the preliminary stages of practising a new piece.

Nitz (1994:32) believes today's world to be one-track-minded, thinking only of performing

from memory while musical horizons should rather be broadened by teaching, accompanying and/or playing chamber music. Many teachers argue that, instead of wasting so much time on memorising music, time can be better spent by practising other musical skills such as sight reading (Shockley 1986:20). Many teachers believe that playing from memory is the biggest enemy of sight reading because, when playing from memory, the eyes of the pianist rely not on the printed score but on what is seen on the keyboard (Eaton 1978:4). This is true, but what is also true, is that the perceptive abilities used in memorisation can improve the sight reading ability of a musician as well as overall performance skills (Bryant s.a.:29). Bryant (1999:30) also believes memorisation can actually help develop a student's sight reading ability[8]. Thus, memorisation can serve as a vehicle for developing music learning skills. What should be avoided, is beginners haphazardly playing from memory, shifting their eyes back and forth between the score and the keyboard (Eaton 1978:52). These students are unsure of whether to play the piece from memory or not. For this author such behaviour shows that both the student's sight reading and memorisation skills are underdeveloped. This results in the student being able to play a piece neither from the score nor from memory. The student should decide whether the piece should be played from the score or from memory and then prepare the piece accordingly. When learning a new piece, the pianist should combine the sound and the feel of the keys with looking at the score. When playing from memory the score is merely omitted. The musician should memorise music in small steps: the first steps enhancing sight reading skills

[8]The first steps in the process of memorisation are involved with reading the music and placing the printed notes on the keyboard, thus developing the musician's sight reading abilities.

and the subsequent steps involving the memorising process (Obenshain 1993:43).

Some musicians think that a good memoriser is a poor sight reader and vice versa. This author disagrees with this notion - for the musician it is merely a matter of interest. According to Joan Last, musicians with the musical skills of harmony and form are able to both read well and memorise with ease (Eaton 1978:32). When the musician possesses a good knowledge of harmony, a chord is not seen as a group of notes, but as an entity with an identity. The same is true for form: when the music is understood, it can be retained more easily and for a longer period of time. The two skills of memorisation and sight reading which seem so contrasting in nature, have many common roots: both call for coordination of the brain, eyes, hands and ears (Obenshain 1993:43). The musicians with better developed visual skills tend to read music well, whereas those with better aural skills have better developed memorisation skills. Frank Fredrich said that the same information, i.e. a knowledge of the construction of the composition, is necessary for both memorising and sight reading music. The only difference is that the memory retains this knowledge when music is being memorised but not when it is being sightread (Eaton 1978:56). Basically, the difference between memorising and sight reading music lies in the type of memory being used: the sight reader uses the short-term memory represented by items that fade beyond recall in a few seconds or minutes; the memoriser uses the long-term memory through which items can be retrieved after years of storage in the brain (Eaton 1978:58).

The conclusion then must be drawn that there is a place for both memorising and sight

reading skills in a musician's life because of the many profits yielded from both. It goes without saying that the solo performer will obviously work more on developing memorisation skills, but the ideal is always a balance: both memorisation and sight reading should be practised and developed equally.

2.4 Conclusion

Musicians have the general idea that, to be successful, music should be memorised. In this chapter a new perspective on this was given, suggesting that every musician should decide what they want to do with their musical career. If that career does not include pursuing a solo performing career, and the musician experiences difficulty with memorisation, the musician can be spared the agony thereof. Terminology regarding memorisation was discussed, differentiating between memorising, playing from memory, and memorisation. A background study of memorisation was also executed.

In the following two chapters the process of memorisation will be discussed in more detail, giving attention to the different faculties involved in the process, as well as practical suggestions and methods to secure memory. Ultimately, the musician will be given the choice to accept or reject whatever feels right for the musician.

Chapter 3

The Faculties of Memorisation

The means of committing music to memory are numerous. Many musicians do not know how they memorise music - to them it comes naturally. But for those without this gift, the process of memorising music must be explained and systematical suggestions must be made. In this chapter the memoriser is informed of all the faculties involved in the memorisation process. The knowledge and understanding of all these faculties and their interaction with one another will lead to greater success in memorisation.

Memorising music involves several components, and different theories exist as to the components being used in the process of memorisation. The most popular theory consists of four components: the **visual, auditory, muscular** and **analytical** components. Varied but similar terms are used for these four components by people endorsing the same

theory. Jordan-Anders (1995:8) speaks of **sight, hearing, touch** and **analysis**. Hallam (1997:95) uses the term **kinaesthetic** instead of **muscular**, Eaton (1978:53) uses the term **tactile**, Bryant (s.a.:32) uses **motor**, and Cooke (1948:122) uses the term **physical**. The term **auditory** is sometimes substituted by **aural** (Bryant 1999:28, Hallam 1997:95), **ear** (Cooke 1948:122, Keeney 1979:40) and **phonographic** (Granger 1977:29). The term **photographic** is sometimes used instead of **visual** (Granger 1977:29) and **analysis** is substituted with **intellectual** (Cooke 1948:122, Keeney 1979:40).

Eaton (1978:55) refers to A. M. Henderson, Waldemar Schweisheimer, and Merrick[1] listing only three components: **sight, hearing** and **touch**. Mainwaring (1954:672) refers to the **visual, auditory** and **kinaesthetic** senses, while Cooke (1948:4) speaks of the senses of the **eye, ear** and **touch**. Maurer (2000 [on line]) disregards the visual component and talks only of the **aural, muscle** and **analytical** faculties used during memorisation. Matthay (1926:9) distinguishes three main forms of musical memory subdivided into eight diverse memory channels:

1. The **musical memory**, subdivided into melodic, harmonic, rhythmic and moodal[2] memory.

2. **Visual memory** has two subdivisions, the one being the eye-memory of the page, and the other being the eye-memory of the keyboard progressions and combinations.[3]

[1] Unfortunately, Eaton does not provide any references of the mentioned names.

[2] **Moodal memory** involves tone, time and duration inflections, those aspects which make music uniquely performed by different musicians.

[3] This is what Heinrich Gebhard called the **keyboard geography method** (Cooke 1948:82-83).

3. **Muscular memory** is also divided into two channels: firstly, the sense of place and movement from note to note on the keyboard (thus, horizontal movement), and secondly, the sense of the key-motion or key-resistance, i.e. the duration-sensation (thus, vertical movement).

A five component theory also exists, adding **emotion** to the **visual, auditory, muscular** and **analytical** senses (Eaton 1978:53, Cumberland 1927:27). The author will discuss all five components as the emotional component is granted enough importance to be considered a means by which memorisation can be facilitated because emotion plays a big role in performing music and bringing music to justice.

3.1 The Visual Memory

As already mentioned, visual memory is subdivided into the eye-memory of the page, and the eye-memory of the keyboard progressions and combinations. The former of these two subdivisions is the so-called **photographic memory**. Some people are blessed with this rare gift with which a person can remember the music as printed on the page. Photographic memory is not a skill that can be developed with practice, and it is most certainly not a necessity for a secure memory. These gifted people merely experience less difficulty with memorisation, but the technical and artistic aspects of the music must still be practised.

The latter of the two subdivisions of visual memory is called the **keyboard geography method** (Cooke 1948:82-83). With this method the printed symbols on the page become

hand patterns on the keyboard (Eaton 1978:47). Pieces are therefore being memorised by the physical outlay on the keyboard. It seems as if this component of visual memory is necessary only to serve as a technical aid.[4] Although this is true, the aid given by the visual component in memorisation cannot be dismissed. When pianists close their eyes when playing, they still visualise the keyboard in their mind's eye feeling the notes with their fingers. In other words, they are substituting actual sight with visualisation and touch. The pianists know what the music looks and feels like on the keyboard; this is an aid in the memorisation process. The observation of the myriad of hand positions on the keyboard is not only important to sighted pianists because of the technical aid it provides, but also because of the aid it provides regarding memorisation.

Dr. Edwin Hughes, a student of Joseffy and Leschetizky, believed that the average piano student memorises by the look of the patterns of the notes on the keyboard coupled with the muscular feeling. Some supplement this form of memorisation with a memory of what the notes look like on the page (Cooke 1948:95). Visual memory and analysis are also often coupled, especially when practising away from the keyboard. This will be discussed in more detail in sections 3.4 and 4.5.

[4] An argument in favour of this statement is the fact that slow pieces and pieces without big jumps are easily played with the eyes closed.

3.2 The Auditory Method

The ear is a musician's biggest tool - without it, music can not be experienced. According to Cumberland (1927:62) the aspect of music easiest memorised auditorily is the melody, with harmony standing second in line.

It has already been said that, when memorising music, the printed symbols on the page become hand patterns on the piano; these patterns then become ear-patterns (Eaton 1978:47). Busoni believed that a performer should be able to hear every note inwardly, away from the keyboard[5] (Cooke 1948:62). Nina Schumann (1999:Personal Interview) and Graham Fitch (2000:Personal Interview) both said that they believe in the power of the inner ear, of knowing a piece well enough to hear it mentally, away from the keyboard. It is important to cultivate the power of hearing music inwardly by merely looking at the page (Merrick 1958:88). The inwardly heard music should then be coupled with visualising the exact movements the hands would have made if it was played on the piano (Guerrant 1979:52).

Mainwaring (1954:672) advises every musician to listen to a work while looking at the score until the sound and structure of it is familiar. Practice should only start after this is accomplished. Reubart (1985:81) also believes in becoming familiar with a piece auditorily before engaging the haptic or muscular sense. John Bergan, as referred to by Eaton (1978:57), believes the internal representation of sound to be very important, directing the motor movement to produce sound. Pro (1980:3) advises the musician to develop what

[5]Grindea (1978:109) also endorses this belief: if a piece of music has been thoroughly memorised, the performer should be able to think through the music, hearing it inwardly.

he calls **expectant listening**, i.e. internalising the sound of the next chord or notes to be played. This expectant listening is then reinforced by the kinaesthetic "feel" for the particular sound. Thus, after the sound of the next chord is internalised, the muscular sense reacts by playing it. Thereafter the ear is again used to verify whether the right chord was played or not. The author also believes expectant listening to be a valuable asset when incorporated in memorisation. It calls for a perfect composition between the visual, auditory and muscular faculties. Kochevitsky, quoted by Eaton (1978:34), recommends the following scheme for proper development of the visual, auditory and muscular sequence:

"visual stimulus → auditory stimulus (the inwardly heard tone) →
anticipation of the motor act → motor act resulting in actual sound →
auditory perception and evaluation of the actual sound."

Listening to music is a conscious act, whereas hearing is a subconscious act (Reubart 1985:57). Listening asks for a form of attention which, in most cases, must be cultivated. Experiencing music auditorily while playing it immediately increases the performance quality. Many musicians are unaware of the fact that they are not listening. This problem is a result of one of two tendencies:

1. The person has high pitch acuity. Thus, the person is listening to pitches, not intervallic relationships or the music created by the intervals.

2. The musician feels the aural perception cultivated to be untrustworthy (Reubart

1985:88). The musician cannot trust the aural skills cultivated because to the musician it feels as if all sounds are being internalised incorrectly.

The former tendency involves the negligence of the intervallic relationships and the music. The latter tendency indicates that the musician has a problem with trust and self-esteem. Trust regarding aural skills can be built by improvisation. Improvisation is the ability to play a piece of music by ear; absolute pitch is the ability to hear pitches. The influence of both absolute pitch and improvisation on the music making process, and thus the memorisation process, can therefore not be ignored.

3.2.1 The Role of Absolute Pitch in Memory Work

"Absolute pitch is a cognitive ability relying on self-referencing and a highly developed coding mechanism linking verbal labels with abstract representations of perceptual input."[6]

-Levitin 1999 [online]

Reubart (1985:71-73) conducted some experiments on which the memory of people with absolute pitch was tested and compared with the memory of people without absolute pitch. One experiment included playing a piece which was in the musicians' current repertoire,

[6]The definition thus states that a musician with absolute pitch refers to some kind of mechanism within the musician self by which pitches are coded and therefore identified. Upon perception, i.e. hearing, of the sound-input, labels are given to a pitch, identifying it with a note-name.

first without auditory feedback and thereafter with auditory feedback. No significant differences could be detected between the two performances by the players with absolute pitch. On the other hand, difference in performance quality was noted by the pianists without absolute pitch. Another experiment involved playing a piece of music which had not been practised for over a year - it was played without auditory feedback. Again, the pianists with absolute pitch experienced no particular difficulty, especially those who reported prolonged experience in improvisatory playing. The conclusion drawn is that there is no denying the advantages that possessing absolute pitch brings with it. The drawback of absolute pitch is the tendency to listen to pitches and not intervallic relationships; to hear pitches instead of music (Reubart 1985:73). Such a person should learn the difference between **hearing** with absolute pitch and **listening** to the music. The former is accomplished subconsciously while the latter is a conscious affair. The solution for the person without absolute pitch is to start training to internalise pitches through their interrelationships. Eventually the process will become automated and natural. The key to this capacity is found in improvisatory playing, which will be discussed in the next section.

3.2.2 The Role of Improvisation in Memory Work

Students are being encouraged to work on improvisation because of the many advantages practising the skill brings with it. Newman, as referred to by Reubart (1985:124), promotes improvisatory playing because the student without the skill memorises slowly and insecurely. Because improvisation is less precise than a prepared performance, it reduces

the fear of memory failure. At the same time it increases the ability to cope with a memory lapse when it does occur (Shockley 1986:21-22). Incorporating keyboard harmony and improvisation into the practice schedule develops a more reliable memory as well as better sight reading skills (Reubart 1985:69). According to Koehler (1997b [online]) the process of improvisation even develops the long-term musical memory. Unfortunately Koehler does not explain this particular statement. But, naturally, improvisation asks for an auditory-haptic unity. The improviser internalises a sound, the muscles react thereupon, and the ear evaluates the actual sound. This sequence is similar to the one Kochevitsky recommends (mentioned in section 3.2), except for the absence of the visual component in memorisation. Thus, the author deduces that, if Kochevitsky's sequence is conducive to memory, and specifically the long-term memory, improvisation will also develop the long-term musical memory.

Playing by ear also develops the elusive quality of good fluent piano playing. It does this because it leads to the kind of harmonic grasp that perceives notes in intelligible groups rather than one at a time, and because it provides a variety of practical experiences (Reubart 1985:125). Translating to the piano a mental concept that comes via the ear rather than a printed page that comes via the eye, the student takes active steps to heighten acuity with regard to harmony, melody and rhythm. Ultimately what must be attained is a confidence in uninhibited playing from the intuitive side of the player's being - playing that links the muscular with the auditory faculties. When the pianist plays by

ear, the auditory system is directing the muscular or haptic system. The pianist without the ability to improvise uses the auditory system merely to monitor what has already been played (Reubart 1985:124). It seems as if the automatic response by the muscular system to the relationship of present to future pitches is inhibited by psychological factors (Reubart 1985:74). When such a player performs from memory and anxiety is experienced, **remembering the notes** takes precedence. Practising the skills of improvisation teaches the pianist to really listen to the music, if that has not already been done. The habits of perception is thus shifted from what is seen to what is heard. The advantages of playing from memory with the kind of auditory-haptic coordination that improvisation entails, therefore, are reasons enough for the pianist to cultivate this performance skill.

3.3 Muscular Memory

The muscles being used during piano playing are the muscles of the fingers, hand, wrist, forearm and upper arm, shoulder and back. Of these the memory of the finger, hand and wrist muscles are the most reliable. According to Cumberland (1927:38,41) small muscular expansion and contraction are most easily remembered, but such memory fails in music widely spread upon the instrument. The reason is that the muscles of the arm lack the precision, accuracy and delicacy of perception that belong to the muscles of the fingers, hand and wrist.

Muscular memory is divided into two types, namely touch and kinaesthesia. Touch involves

the muscular and nerve control of the amount of force or weight employed in the striking of a key, whereas kinaesthesia is defined as the following (Cooke 1948:23):

> "...the sense whose end organs lie in the muscles, tendons and joints,
> and are stimulated by bodily movements and tension."

In other words, the difference between touch and kinaesthesia is vertical and horizontal. There are two forms of kinaesthetic recurrence which are the most influential factors in the memorisation process (Mainwaring 1954:670):

1. The recalling of the sensation of an action, thus feeling the sensation of replaying a passage or chord in the fingers;

2. An action, by occurring, tends to establish a disposition to occur again under similar conditions. This action is not restricted by sensation, and is a **habit sequence**.

Memorising with the muscular sense involves a great deal of repetition to the sense of overlearning.[7] Note-successions should be repeated enough times to ensure a thorough impression on the brain. Aristotle, quoted by Moss (1999 [online]), once said:

> "We are what we repeatedly do.
> Excellence, then, is not an act, but a habit."

[7] **Overlearning** is repetition beyond the criterion of a single correct reproduction (Spender and Shuter-Dyson 1980:411). It is rehearsing past the point at which material has been learned (Bryant s.a.:3). In other words, it is practising to make sure the piece will be correct every time.

When practising the muscle memory, repetition should always be done with exactly the same fingerings. Specific fingerings should be associated with a specific group of notes (Reubart 1985:86).

Muscular memory is a vital, basic component of memorisation. The body's kinaesthetic sense is very important to any human being (Green with Gallwey 1987:73). It is the sense with which the pianist can memorise easily because of its naturalness. Although muscular memorisation comes naturally, it is treacherous and unreliable, especially if the pianist has memorised by the muscular sense alone[8] (Cumberland 1927:35, Pro 1980:3). Muscular memory rusts easily if not being practised frequently, and thus it becomes less reliable. Ignace Paderewski, as quoted by Cumberland (1927:46), once declared that if he missed one day's practice, he would notice the difference in his playing; two days without practice and his wife was aware of it; and if three days passed without him practising the public will be able to notice it.

Still, most performers emphasise the muscular memory despite the fact that they claim insecurity when performing. This insecurity results because playing from memory by the muscular sense alone needs no intellectual effort[9] (Cumberland 1972:34). The performer knows that only the fingers have a memory of the music. Thus, no safety-net is available to fall back on. This is what gives rise to the feeling of insecurity when music is memorised by

[8]It is true what Graham Fitch (2000:Personal Interview) said about muscular memory: "easy come, easy go". Dr Edwin Hughes, as referred to by Cooke (1948:96), also warns the pianist against memorising by the muscular sense alone because of its unreliability.

[9]This fact was illustrated by Alfred Reisenhauer, a student of Liszt, when he gave a superb performance of Liszt's *La Campanella* in such a drunken state that he could not possibly have directed any conscious awareness towards playing the music. Because the muscular sense implies that the fingers can continue playing without any conscious thought, it is also called **automatic** memory (Cooke 1948:24).

the muscular memory alone. As soon as conscious attention is then directed towards the notes being played, breakdown will occur. Automatisation of the muscular memory should play a prominent role in the memorisation process, but it should have a solid foundation in conscious preparation. By directing attention towards the way in which muscular memory works, it can be made more reliable. Combining it with the auditory system, as previously mentioned, can provide great memory security because of the auditory-haptic coordination produced. Only then can confidence lie in the fact that, if all other phases of memory fail, automated muscular memory will come to the rescue (Cooke 1948:16, 121).

3.4 The Analytical Approach

As already mentioned, an enormous group of musicians emphasises muscular memory. By analysing music, using the mind as much as the muscular sense, music can be memorised faster and retained longer. Analysis comprises of describing the form of a piece, comparing phrases and sections, locating motives and key centres (Bryant s.a.:16).

The knowledge of musical form, harmonic structure and progression is an important aid in the memorisation process. The structure of the music must be observed and the ability to hum the melodic lines be achieved (Grindea 1978:109). According to Matthay (1926:6), the melodic progression should be seen as a succession of intervals, rhythmically shaped. The bass line and progression should be memorised attentively. Music should be memorised

from the bass upwards to prevent neglecting the left hand[10] (Matthay 1926:14). Each voice line should be examined intervallically. With contrapuntal music, each voice should be studied separately (Cooke 1948:96). The performer should be able to play each voice from memory using the same fingerings which will be used if playing all the voices together. Pro (1980:3) is against each line being independently analysed and practised. The reasons given are the waste of time as well as insufficiency and misleadingness as to the security which should be experienced when practising voices separately. According to Reubart (1985:29) music is better memorised when the texture is experienced wholly, therefore enabling the performer to imagine the total musical texture when away from the instrument. Still, this author believes that voices should be studied separately for a musician to feel totally secure with regard to the memorisation of contrapuntal music. Having started practice and memorisation with this method, difficulty will be experienced when putting all the voices together - this is natural. Rather than trying to put all the voices together simultaneously, the memoriser should try playing only two voices together. Thereafter, another two voices should be practised together. Practice must be done this way till security is experienced. Only when security is achieved, adding a third, fourth, etc. voice is advisable. By doing this, the mind is consciously directed to each voice. In the end, the total texture is also experienced and memorised as such, giving the performer double security.

Analytical study should be a part of the memory process soon after the inception of study. If started too late, the results could be disastrous. In a letter Glenn Gould wrote in 1962,

[10]Memory lapses often occur because of insufficient study of the left hand, especially the bass line.

he suggested that musicians should start memorising music by purely analytical terms first. However difficult it may seem to be at first, a work learned in analytical terms first and only secondly at the instrument will leave you permanently with a stronger sense of its structure and its internal workings.[11] Graham Fitch (2000:Personal Interview) supports the importance of analysis in the memorising of music. Rubinstein, Diller and Bachauer also endorse the practise of analysis, as well as memorising away from the keyboard (Eaton 1978:54). Rubin-Rabson conducted many experiments with regard to the difference in retention of music memorised by analysis and music memorised solely at the keyboard. The results showed that music memorised by analysis was retained longer[12] than music memorised at the piano (Eaton 1978:55). When a piece has not been practised for a year or so and the pianist wants to revive it, the piece will come back to the forefront of the memory easier when the grounds of analysis were laid down.

Bryant (s.a.:14) did a study experimenting with memorisation efficiency. She found that information on how the memory system functions builds understanding and confidence to apply analysis to the memorisation task at hand. It also gives insight as to the evaluation of the strengths and weaknesses of the individual's memory. The question to be asked is what should be analysed. Performing artists are not theoreticians. Therefore not only should the music be analysed and understood, but also the performance itself (Granger 1977:30). The performer should know what the music looks like on the keyboard, know

[11]The arguments Reubart (1985:83) give in favour of analysis are structural understanding and stylistic insight. Not only will stylistic insight be achieved regarding the specific work being memorised, but insight which can be applied to other music.

[12]It is for this reason that Pro (1980:3) believes analysis to improve a person's long-term memory.

how it feels when playing it, and know what the music sounds like.

To conclude, memorising music by analysis will be difficult for those attempting it for the first time, but it will become easier with time and practice. Standard patterns are more easily analysed and memorised; atonal music is difficult - but not impossible - because of the unfamiliar idiom.[13] When organised properly, a cognitive understanding of the structure of the music can cue the auditory memory and muscular responses (Bryant s.a.:32). Analysis embodies an awareness of all the parameters of music (Pro 1980:3). It provides memory security and decreases the fear of forgetting because it minimises retrieval failure when supplementing the automated processes based on visual, auditory and kinaesthetic codes (Hallam 1997:95).

" Only once the form of the music is clear

will the spirit become clear to the musician."

-Robert Schumann

3.5 Emotional Memory

Emotion exists without reason and in spite of it; it is not regarded as a logic thing (Cumberland 1927:91). Music portrays emotions. Every piece of music should be analysed as to which emotions are felt where and why. Specific passages should be associated with specific emotions. Although, when performing, these emotions should not be experienced too

[13]In such music the time spent memorising is in direct proportion to the time spent analysing (Granger 1927:29).

much by the performer, the performer should be aware of them. Only when the performer is aware of the emotions portrayed in the music, rather than under- or over-emotionalising, will the audience feel them and be moved - the ultimate goal for any artist.

According to Kaplan and Sadock (1997:90), the amygdala[14] is suggested to rate the emotional importance of an experience and to activate the level of hippocampal activity accordingly. Both the hippocampi[15] and amygdalae are necessary to form and recall memories. Thus, an emotional intense experience is etched in the memory, whereas indifferent stimuli are quickly disregarded.

William Gray, a Massachusetts psychiatrist, quoted by Clark (s.a.:18), said:

> "Feelings may be the organisers of the mind and personality.
> Finely tuned emotions may form the basis of all we know."

According to the above mentioned theory, feelings form the underlying structure of thought and emotion serves as the key to memory, recognition, and the developing of new ideas (Clark s.a.:18). This new theory, together with the anatomy of emotional experiences, seems to augment the importance of emotion in the memorability of music. If the musician is infatuated by a piece of music, it will be easily memorised. But, if the musician has a negative attitude towards a piece, it will take very long - if ever - to memorise it. It will probably be forgotten easily as well. If a person **wants** to learn something, it will be

[14]The amygdala is a roughly almond-shaped mass of grey matter deep inside each cerebral hemisphere of the brain (Martin 1994:27).

[15]The hippocampus is a swelling in the floor of the lateral ventricle of the brain. It contains complex foldings of cortical tissue (Martin 1994:306).

learnt quickly and effectively. Music teachers have a responsibility towards their students not to force them to play pieces they dislike. Rather, the teacher should listen to what the student would like to play. If a certain piece is too difficult for the student at that stage, another option should be given, having explained the reason why. In any event, if a student (musician) **wants** to learn a piece, it will be learnt quickly and effectively.

3.6 Conclusion

There are four processes involved in the normal memory system, i.e. registration, retention, recall and recognition. Registration is the ability to add new material to the existing memory stores; retention is the ability to retain a memory; recall refers to the ability to bring material back into awareness; and recognition is the feeling of familiarity indicating that a particular person, event or subject has been encountered before (Kumar and Clark 1998:1109).

When all five components of musical memorisation are combined, all the mental and physical gifts are brought to bear upon the particular piece of music. This means that all five components - visual, auditory, muscular, analytical and emotional - are used to register, retain, recall and recognise music. By doing this, the most reliable and secure form of memory is achieved. One of these components used for memorisation may be higher developed than the others. That component will be the person's most reliable sense. For the average student, and those who experience difficulty with memorisation, all five components should

be developed equally, providing more security.

Chapter 4

Approaching the Process of Memorisation

Different people have different approaches toward memorisation. There is not only one correct way of memorising music and playing from memory. Controversy exists regarding different aspects of the memorisation process. These aspects are discussed in this chapter informing the reader of all the existing possibilities with regard to memorisation. The author also proposes a method by which maximum memory security can be gained.

People differ; for this reason students should guard against imitating the memorisation methods of virtuosi - what works for one person does not necessarily work for another. Each musician should experiment with different memorisation methods in order to find the best and most effective method. Students should also be aware of the fact that memorisation

is a technique which has to be developed and practised. The first piece is always the most difficult to memorise, but the memoriser should not become discouraged - the more music memorised, the faster and easier memorisation will become.

4.1 Memorising Music Immediately or Gradually

Many musicians think that memorising music consciously from the start is strenuous and time consuming when in actual fact, it is a time saver. When memorising music gradually, a piece of music is first learned and played from the score. By the time the piece can be played fluently, it is still not memorised. When memorising such a piece, the musician tends to rely more on the finger memory, because the fingers are practised and automated. The insufficiency of mere finger memory has been discussed in section 3.3. Memorising music gradually amounts to doing more work without a greater feeling of security.

When memorising music from the start, all five components of memorisation are combined:

- **Visual** - the sight of music on paper combined with what it looks like when played on the keyboard.
- **Auditory** - hearing what it must sound like.
- **Muscular** - applying finger memory.
- **Analytical** - recognising harmonies, intervals, etc.
- **Emotion** - wanting to learn the piece.

It may be difficult to memorise a piece from the start, but only because it is a new technique which needs to be practised. The advantage of memorising from the start is that, once the piece is memorised, the performer has time to build self-confidence and memory security because of the opportunity to play it from memory many times.

The music should also be practised without the score. Every now and again the piece can be played from the score slowly to make sure of all the notes. This prevents the automatic memory taking over. The score should be studied and re-analysed as if it were a new piece. In this way the conscious mind is again forced to be in control of every note, phrasing, dynamics, etc. The musician should check and double check the notes before playing them - correctly - on the instrument. The process of memorising music is never finished; music should be re-analysed and re-memorised on a regular basis.

Despite the security immediate and conscious memorising of music provide, most musicians still prefer to memorise music gradually, relying on their automatic memory. Hallam (1997:90) conducted an experiment to find out which approach to memorisation novice and professional musicians were using. Sixty-four percent of the professional musicians reported that a great deal of memorisation occurs without conscious awareness and that they rely greatly on the automatic memory, thus trusting the hands and fingers to perform a set of actions in the same way they have done many times before. These musicians do claim a feeling of insecurity and they experience anxiety because of it.

Commonly, musicians appear to learn using automated processes but attempt retrieval utilising a conscious, cognitive process (Hallam 1997:96). This mismatch of processes will

most certainly lead to a memory failure. When a musician has learned a piece automatically, retrieval must take place automatically. This means that the person should not think about the next section but should continue in an "unthinking" manner, putting trust in automatism. It seems as if this method - relying on automated processes developed by memorising automatically gradually - is an open invitation for a memory lapse. That is why this author believes cognitive analysis should be done from the very beginning. The structure of the piece should be studied, key changes noted, harmonic structure analysed, similar passages compared, etc., to provide a framework of consciousness into which the detail can be placed through automated processes.

4.2 Practising a Piece as a Whole or in Sections

Whether a piece should be practised as a whole or in sections depends on its size and difficulty. A short piece is most likely to be practised as a whole. This method avoids bad links between different sections and it strengthens the musician's mental grasp of the piece (Mainwaring 1954:672). It also takes up a lot of time before the piece is memorised completely. Inaccuracies are often included because difficult and less difficult passages are practised with equal effort (Mainwaring 1954:672). Because the more technically difficult passages are in fact being neglected, the same mistakes are being played over and over again. The brain, fingers, ears and eyes are taught the wrong succession of notes. This could result in the performer always playing the wrong notes.

When a piece is practised in sections, one section is learned, analysed and memorised thoroughly; difficult passages are noted and practised accordingly. Shockley (1986:23) suggests making a map of all the problem spots, including technically difficult passages as well as bridge or modulatory passages. These problem spots are then receiving extra "care," providing the performance with a homogenous quality throughout.

4.3 Practice Sessions and Goalsetting

Everyone needs to have something to work towards in order to be motivated. A time limit should be set for any task, but it needs to be realistic and attainable.[1] A realistic pacing must be set. Trying to do too much at one time could lead to exertion, in turn reducing concentration during practice.

Almost all teachers advise their students to practise in short sessions[2] with breaks in between. These sessions should take place on a regular daily basis. Breaks could be approximately ten minutes of relaxing, or perhaps practising a different piece which asks for a different mindset, e.g. if the Dante sonata of Liszt were practised, the demanding octaves and technical challenges could be alternated by practising a Haydn sonata which asks for a light attack and a humorous approach.

It is the belief of the author that fatigue is often brought about psychologically. The

[1] If the goals set out to be achieved are not reached, the musician could develop a negative attitude towards that specific piece of music.

[2] Short practice sessions are suggested because of the short attention span of the human being.

musician should try to practise without constantly checking the time spent. If the amount of time practised is unknown to the musician, fatigue will probably not prevail as quickly.

Nobody can prescribe what anybody's practice schedule should look like, but regular daily practice without the psychological influence of the time aspect seems to be the most productive. The musician has to be alert, eager and determined. Sufficient sleep and rest are requisites for maximum productivity. The musician must be motivated, interested and fascinated by the music. Without enthusiasm it would take a hundred times more practise before a piece is memorised and ready for performance. All in all the musician must have a positive attitude towards practising and performing.

4.4 Causes of Memory Lapses

"To understand memory

we should try to understand forgetting"

-A. A. Lindsay.

A memory lapse is a frustrating experience, and for the performer it is humiliating. Both professional and amateur musicians are united by this one aspect of playing - the fear of forgetting (Keeney 1979:40).

There are many causes of memory lapses. They occur mostly because of inadequate, incomplete preparation (Keeney 1979:40, Bryant s.a.:28, Barnes 1962:101). Memory slips

are most likely to occur in the left hand because the left hand is often neglected. Other parts that need special attention against memory lapses are similar passages, modulatory passages, rhythmically complicated passages and passages with skips in a slow or moderate tempo (Keeney 1979:41). Quite often memory lapses occur because the performer has relied on one type of memory during the memorising process, and has then tried to retrieve it using a different memory type. For example, when a piece is memorised by muscular memory alone, retrieval will fail when the musician tries to remember the notes, because the latter involves some kind of analysis during preparation. This, then, suggests that the initial learning process was insufficient and should be improved, together with the post-study process.[3]

A lack of concentration and attention during practice and performance is another main cause of memory lapses. A performer's mind frequently wanders off. During practice this means automatic playing without conscious thought. In a performance such wandering of the mind can be disastrous: when the mind is brought back to the performance at hand, the performer might not realise immediately what part of the piece is being played at that moment. This could lead to momentary confusion which, in turn, could result in a memory lapse.

Mistakes being repeated in the practice room are frequently the source of doubt leading to a memory lapse. Playing mistakes and repeating them could cause insecurity about which notes are supposed to be played. Concentration should be sharpened to decrease

[3]Post-study is the study which takes place after a piece is already known to the musician. It involves going back to the score, practising away from the instrument, and testing the memory.

the amount of mistakes being made repeatedly in the practice room.

Music beyond the musician's technical ability should not be performed (Rider 1980:94, Barnes 1962:101). Many breakdowns are the result of inadequate skill. Because the musician is not in control of a piece technically, pressure is added leading to increased performance anxiety[4] which, in turn, increases the possibility of a memory lapse - a vicious circle.

Performing in new surroundings can also lead to a memory lapse (Barnes 1962:106). Giving a concert in a hall unfamiliar to the performer, demands of the performer that he/she employs all the senses of memorisation because of the different acoustics, different attack and sound of the piano, etc. For this reason, the performer should try to rehearse in the concert hall once or twice before a concert to acclimatise to the surroundings and the instrument. Unforeseen events occurring during a performance could also distract the musician: people coming in late while the performer is already playing; someone coughing incessantly; or a cellphone ringing. This is when the musician's self-discipline must be such that the focus remains purely on the music.

Coping with memory lapses should be an integral part of a musician's practising. When playing through a piece for a mock recital, the musician should not stop when a memory lapse occurs. Rather, the musician should try to cope with the memory lapse as if it were a concert. The main objective is to maintain the rhythm (Keeney 1979:40), and not to draw attention to the mistake. The performer must always seem confident and in control:

[4]Performance anxiety as a cause of memory lapses are being discussed in chapter 5.

"If one makes a frightful slip, he must behave
like the chess player who wears that
just-what-I-had-in-mind look when he
discovers he has left his queen 'en prise' "

- Newman, quoted by De Villiers (1995:104)

4.5 Securing the Memory

In the process of memorisation the author proposes five phases which will ultimately lead to the final phase of success:

1. pre-study
2. practice at the instrument
3. practice away from the instrument
4. testing the memory
5. mock recital
6. success

4.5.1 Pre-Study

Pre-study involves studying the score before playing a note. Analysis should be done to determine the structure of the piece. Time signature changes, key changes, troublesome rhythms, repetitions, similar passages, etc. should be analysed and noted. Attention should be given to passages that seem technically difficult; they should be practised first. Pre-study does not involve studying every detail; these details will be practised and analysed at the instrument.

Pre-study also includes becoming familiar with a piece auditorily. If a concerto is to be practised, auditory familiarity is especially important to acquaint the performer with the orchestral part as well as that of the soloist. Listening to the concerto accustoms the performer's ear to the overall sound image[5].

Gina Bachauer believed in pre-study. She did not commence with practice at the piano before studying a piece for fifteen to twenty days (Eaton 1978:35). Jonas Starker, cello professor at Indiana University, also believed in pre-study away from the instrument (Green with Gallwey 1987:70), and Ernest Schelling believed it to save valuable practice time (Eaton 1978:34).

Thus, pre-study is a cognitive/analytical approach employing the visual sense (when analysing the music) and the auditory sense (when listening to the music) for the purpose of becoming familiar with a work and saving hours of unnecessary and, possibly,

[5]Instrumentalists other than pianists play mostly with accompaniment. They have to study the accompaniment if they wish to play from memory successfully.

unproductive practice at the instrument.

4.5.2 Practice at the Instrument

Practice at the instrument is that part of memorisation which is an obvious necessity. Many musicians think they have achieved something if they practise six hours daily. This is not necessarily true; many hours spent at the instrument can be unproductive because of technical and musical mistakes being repeated. Still, a memory available at will, as opposed to recognition or involuntary recall, necessitates a high degree of overlearning (Spender and Shuter-Dyson 1980:418). Note-successions should be repeated enough times for a thorough impression and secure memory (Matthay 1926:10). These impressions should be accurate to ensure accurate reproductions.

First impressions last forever - a popular saying; it is also true of practising and memorising music. If a certain passage is played incorrectly the first time around, a predisposition is set for the same thing to happen again. Lamar Crowson, famous South African pianist and pedagogue, was believed to have said that if the same mistake was made twice, it will most likely occur every time. This is a very harsh statement, but, strangely enough, many mistakes heard during a performance have been practised in during practice sessions. The fact is that the fingers become used to playing a specific set of notes, whether these are the right or the wrong notes. To correct this problem, the same passage needs to be played correctly many times. Even then, subconsciously, the first and wrong imprint will be ready to jump out when it is most unwelcome, especially when performance anxiety

is experienced. Therefore it is very important to try to avoid mistakes during practice, especially initial practice.

Practising hands separately can enhance the security of knowing the notes. Special attention should be given to the left hand, and specifically the bass line. Neglecting the left hand often leads to memory lapses. Moriz Rosenthal, as referred to by Cooke (1979:114), believes that practising hands separately is too time consuming. This is true, but there is a difference between **time consuming** and **a waste of time**. Slow practice and analysis are also time consuming but it is time well spent; it provides security. The same counts for practising hands separately.

Contrapuntal music and modern music are the most difficult to memorise: the former because of all the independent voice-leading, and the latter because of the unfamiliar idiom. Dr. Edwin Hughes, as referred to by Cooke (1979:96), believed that the musician should be able to play every voice separately, as well as the left hand and the right hand. According to Pro (1980:3), this method is inefficient, misleading, counterproductive and a waste of time. The reason he gives is that texture is better memorised as a whole than through isolation of its parts. However, this author believes that the separate memorising of each voice does give the performer extra confidence and security. Such security is achieved when each voice is consciously memorised together with the total texture image during the later stages of practice.

When a piece is in its foetal-phase it should be played as slowly as the musician is able to play everything correctly. Prokofieff once said that, if a student thought slow practice was

being done, it should be even slower. Rachmaninoff also believed in slow practice.[6] During slow practice the musician should be conscious of everything. Unconscious, automated slow practice is very easily done, especially when the piece is well-known, but then the whole purpose of slow practice is destroyed: to learn and relearn the music thoroughly, to avoid mistakes, and to analyse everything which was not analysed during pre-study, e.g. dynamics, phrasing, etc. According to Moss (1999 [online]) the slower the practice, the faster the learning.

Very little should escape the conscious mind when practising, it is conscious practising which lays the groundwork for a secure subconscious. As Reubart (1985:57) states, full attention should be focused on all the details during practice, so that the processes which ought to be automated during performance, are done automatically with confidence. The decisions and physical adjustments to be made during a performance are too much for the conscious mind - it must have been **worked in** (Reubart 1985:40). When practising, a high degree of automatisation is achieved needing a minimal amount of conscious control once the activity has begun (Reubart 1985:49). Still the performance must have a **mind** behind it. Lilias McKinnon, as quoted by Reubart (1985:40), once said:

"Consciousness (is) the centre of practice,

subconscious of performance."

Quite often students ask why scales and arpeggios have to be practised. These are as

[6]There is a story of a visitor to Rachmaninoff who, arriving at his house, was just about to ring the doorbell when he heard Rachmaninoff practising his double-thirds Etude. It was played so very slowly that the visitor thought that Rachmaninoff would never get through the piece (Reubart 1985:94).

important to the musician as the multiplication table to the scholar. They are never recited, but their thorough knowledge pays huge dividends in memorising (Keeney 1979:41). A thorough technical training provides the student with a vast number of kinaesthetic impressions (Cooke 1979:44): if the scale of E major can be played as an exercise, it can also be played in a piece. Scales and arpeggios provide a familiar idiom for the musician, making the initial reading, practising, and memorising processes easier.

Ever so often, time spent in the practice room is found to be boring and meticulous. Graham Fitch (2000:Personal Interview) suggests that the musician should try to make practising more fun by experimenting during practice sessions. When a person is interested in something, the attention level is high and kept high for a longer period of time. Graham Fitch (2000:Personal Interview) suggests practising with reversed hands, trying to play with wrong fingers deliberately, trying to play all the black notes of one voice with the left hand and the white notes with the right hand, etc. These experiments can also act as a means to test the memory.

A musician is not a theoretician, therefore not only the music should be analysed, but also the performance (Granger 1977:30). The muscular action of playing should be analysed, i.e. what the hands look like on the keyboard, how the fingers feel. This knowledge should be coupled with the analysis of the music which has already been done.

4.5.3 Practice Away From the Instrument

Practice away from the instrument is often being referred to as **armchair-practice**. The idea is to sit in a comfortable chair and think through the music, both with and without the score. The movements of the hands should be seen in the mind's eye, and the sound of the music should be internalised.[7]

Armchair-practice is also another means of checking, rechecking, and re-analysing the music to make sure that the conscious mind is still aware of every little detail in the music. The musician should always go back to the score to do this, even if no doubt exists. These frequent referrals back to the score provide cognitive assurance. Only when the conscious foundations are securely laid, can it be accepted that the subconscious is well prepared.

Robert Louis Stevenson defines armchair-practice perfectly in one of his poems:

"Mark the note that rises,
Mark the notes that fall,
Mark the time when broken,
And the swing of it all;

[7]Busoni, as referred to by Cooke (1979:124), also believed in the value of kinaesthetic imagery coupled with internalising the sound of the music.

So when night is come

and you are gone to bed,

All the songs you love to sing

Will echo in your head."

4.5.4 Testing the Memory

There are many ways to test the memory. Armchair-practice, as described above, is one way to test the memory. If a part of the piece is vague when thinking through it, that part could give problems during a performance. Guerrant (1979:52) suggests thinking through the music slowly. If the memory or continuity fails, it is a cue that the memory is not infallible.

Playing through a piece slowly without the score is also a good test for memory (Keeney 1979:40, Maier 1943:6, Merrick 1958:107). This is a cognitive test ensuring that every note is played correctly. Practising hands separately, especially the left hand, is another test. Keeney (1979:40) suggests playing the accompaniment while singing the melody. This tests the musician's knowledge of the accompanying notes, as well as the musician's auditory familiarity with the melody. Merrick (1958:107) proposes the playing of a piece on a silent piano.[8] This is a keyboard geography test, as well as an internalising test.

If a piece is properly and thoroughly memorised, it should be possible for the performer

[8] A silent piano does not produce any sound when the keys are pressed down. A "normal" piano can be made "silent" by putting a blanket inside the piano, causing an obstruction between the hammers and the strings.

to start with any phrase, any measure, any beat, and then be able to play the proceeding notes (Sloboda 1986:67). Josef Hoffman, as referred to by Cooke (1979:124), advises the performer to practise playing one bar, humming the next, playing the next, etc[9]. This is very difficult and only possible when thorough memorising is done.

Another test is to play the piece with reversed hands, thus playing the right hand notes with the left hand, and vice versa. With this test the muscular memory is being excluded, relying on the cognitive and auditory senses for retrieval. This could be taking memorisation one step too far, but it will most certainly be a challenge for the memoriser. It will also be an eye-opener as to the role that analysis and cognition play in the musician's memorisation process.

A purely cognitive test is one proposed by Swiss-born pianist, conductor and teacher, Rudolph Ganz (Cooke 1979:80-81): he sees the final result of memorising music as the ability to notate the entire composition, including the tempo-indications, dynamic signs and phrasing. Victor Seroff also believes that the ability to notate the music should be the ultimate test for a secure memory (Cooke 1979:124). This author believes this ability to notate the music, is unnecessary: if a piece can be written down, it cannot necessarily be played. If previously mentioned practice methods, such as practising hands and voices separately, and practising slowly, are rejected by some musicians, this test of notating music is rejected by this author because it could be misleading and inefficient.

A number of memory tests have been mentioned. None of these tests should be attempted

[9]Bastien (1977:404) also suggested the mentioned practice method.

just before a performance - this could have a disastrous impact. Testing the memory should rather form a part of the memorisation process from the start.

4.5.5 Mock Recital

Mock recitals are a way to develop confidence in playing from memory in front of an audience. Usually a couple of friends are invited, providing a relaxed concert atmosphere (Binkowski 1986:42).

The interrelationship between consciousness and subconsciousness during practice differ from their interrelationship during performance. During practice little should escape the conscious attention, but during performance conscious awareness must be restricted to its assigned role. Every musician is used to the mindset of practice; a mock recital gives the musician a chance to "practise" the interrelationship between the conscious and the subconscious during performance. A mock recital also gives the performer new insight into the music regarding the memory as well as the music itself. Technical problems can be highlighted and sorted out, as well as memorisation problems. The musician is thus preparing to give a concert of maximum quality.

Confidence is achieved through successful performances. A mock recital can therefore be a means by which a good, healthy self-esteem can be built.

4.5.6 Success

According to Mainwaring (1954:671) success in memorisation is achieved when thought and utterance occur simultaneously. The notational symbols, the physical events of producing the music and the mental association of sound and symbol should be an inseparable three-fold association (Mainwaring 1954:671).

Playing from memory should not be an issue; it should be a tool to make music. To perform from memory successfully asks for a perfect composition between past, present and future (Nina Schumann 1999: Personal interview). The following quote, of which the author is unknown, illustrates such a composition:

> "The past cannot be changed,
> but the present can be ruined
> by worrying over the future."

The performer should trust that all the practice that has been done will bear fruit during the performance. The performer should **let go** during a performance, living the music of the moment, trusting in the memory completely. If no psychological hindrance[10] stands in the way, and the performer is focused on the music - not the notes - the performance should be successful. Even then, when all possible preparation has been done and the performer has a positive attitude towards the performance, the musician should not be dismayed if something goes wrong:

[10]The psychological factors associated with performance will be discussed in chapter 5.

"We cannot be absolutely perfect like machines;

and as a matter of fact,

even machines may go wrong."

-Sandor (1981:194)

4.6 Conclusion

Memorisation should never be treated as an independent factor of music; it should be practised in the same way as dynamics, phrasing, etc. It is also a technique to be acquired through practice and experience. Thomas de Quincey, when he wrote his *Confessions of an English Opium Eater* in 1821, stated:

"It is notorious that the memory strengthens as you lay burdens upon it,

and becomes trustworthy as you trust it." (Cooke 1979:75)

Therefore the first piece is always the most difficult, but with practice, memorisation will become second nature. Practice must involve the whole person, consciously and subconsciously, auditorily and kinaesthetically. Practice must take place on a regular daily basis. The musician must be alert, well-rested and in good health. Trust and self-confidence need to be cultivated in training the memory as they are important ingredients for a successful performing career.

Six steps, including success, by which a memory can be made secure were proposed in this chapter. What has been suggested may be difficult to do at first for those memorisers who are applying analysis to memorisation for the first time. With practice and endurance, the time spent will show to be rewarding. Performing from memory successfully asks for a perfect balance between all the faculties and factors involved; this balance starts in the practice room.

Chapter 5

Performance Anxiety

Performance anxiety is the most frequently reported performance problem (Nagel *et al* 1989:13). In this chapter performance anxiety is defined and investigated regarding its symptoms, causes and possible cures, as well as regarding the consequences performance anxiety has on the memorisation process.

Everybody experiences performance anxiety: Rosa Ponselle had to be pushed onto stage; Rubinstein's hands trembled; Clara Schumann had problems with playing from memory in front of an audience (Young 1996:9). It is an everyday problem that persists despite years of experience.[1]

Every musician's performance anxiety is as unique as a person's fingerprints (Reubart 1985:viii). The performer's levels of performance anxiety even differ from performance

[1]For the expert performer the dilemma occurs in which a potential humiliating and frightening mistake becomes less and less tolerable.

to performance depending on preparation, psychological poise, personal problems, etc. For some musicians performance anxiety is a very frustrating experience: anticipating the performance; the heart racing; the breathing shallow; wondering who might be in the audience and what they will think of the performance; and having negative thoughts about what could possibly go wrong, including having a memory lapse. Often performers want to withdraw from the performance, and they wonder why they keep tormenting themselves over and over again. However, the performer needs to realise that there is always a matter of risk involved in a performance (Reubart 1985:79). This risk, a degree of performance anxiety, is necessary to give an exciting performance. To overcome this anxiety and still perform takes courage, with the ultimate reward being the so-called **peak experience**.[2] Plaut, quoted by Ryan (1998:83), summarises this conflict beautifully:

> "Nothing is more devastating to a performing artist
> than not having the chance to be on stage and,
> as the pervasiveness of performance anxiety attests,
> nothing is more threatening than having that chance."

5.1 Terminology Regarding Performance Anxiety

Performance anxiety is a set of symptoms and signs associated with a performance.

[2]The **peak experience** represents the ultimate attainment of the fully-functioning human being (Reubart 1985:55). It manifests when any possible objects of concern (e.g. technical difficulties, memory) are eliminated before the concert begins so that the performer thinks and experiences the music.

Whether the anxiety precedes the performance with seconds, minutes, or weeks, or whether the anxiety is experienced at the moment of the performance, it is all performance anxiety - anxiety[3] caused by a performance. This anxiety is usually out of proportion to the performer's level of training, preparation and skill.

Many different terms are used when referring to this performers' ordeal:

- **Stagefright** is the term most commonly used. The problem with this term is that it places the anxiety in a particular setting - the stage. The term ignores the anticipating component of anxiety before a performance. It also ignores those performances which take place off stage, such as examinations, master classes, etc.

- **Worry** is the way anxiety is expressed cognitively; it usually accompanies anxiety as negative thought, i.e. thoughts of previous mistakes and failures (Reubart 1985:4).

- **Stress** is often confused with anxiety, but in actual fact stress is a cause of anxiety. Rollo May describes the difference between stress and anxiety as follows: "Anxiety is how the individual relates to stress, accepts it, interprets it. Stress is a halfway station on the way to anxiety. Anxiety is how we handle stress." (Reubart 1985:4).

- **Fear** too is sometimes confused with anxiety. The difference between fear and anxiety can be illustrated as such: "someone has a fear," but, "someone is anxious." Thus, fear is associated with something specific, e.g. fear of spiders, heights, darkness, etc.

[3]Anxiety is a response to something which feels out of control, even though the event may be within control (Zinn 1995:100).

This fear can lead to the feeling associated with anxiety which is a more subjective experience.

- **Panic** and **terror** are used to indicate extremes of anxiety.
- The term **music(al) performance anxiety** is preferred by a few authors, but according to Salmon, referred to by Lederman (1999:117), this is unnecessary. It also ignores the similarity of the syndrome associated with other forms of performance on any of life's stages.
- The term **performance anxiety** is therefore the most applicable, describing the anxiety experienced because of a performance, whether this anxiety is experienced before or during a performance.

There are two types of anxiety: **existential** and **neurotic**. The former has its roots in the instinct of self-preservation (Reubart 1985:6). Neurotic anxiety, on the other hand, is apprehension in disproportion to the objective threat. It is anxiety where the specific threat is unknown, and the responses are out of proportion to the danger recognised by society. These responses are generated by the individual's own interpretation thereof rather than by the actual threat they impose (Reubart 1985:7). Performance anxiety is normally a neurotic anxiety; it presents no physical danger.

According to the Diagnostic and Statistical Manual, referred to by Sataloff *et al* (1999:122), performance anxiety meets the criteria for social phobia (social anxiety disorder), which include the following:

- There is a definite and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people and their criticism.
- Exposure to the feared social situation usually provokes anxiety, which may take the form of a situationally bound or situationally predisposed panic attack.
- The person recognises that the fear is excessive or unrealistic.
- The feared social or performance situations are avoided or else are endured with intense anxiety.
- The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine and occupational functioning.

Thus, performance anxiety is anxiety, out of proportion, caused by a performance which poses no physical threat, but rather a threat of psychological nature.

5.2 The Symptoms of Performance Anxiety

According to Ryan (1998:83) and Lederman (1999:117), performance anxiety manifests in three different areas, namely the cognitive, behavioural and physiological areas. Sataloff *et al* (1999:124) adds the emotional component and also divides the physiological manifestation of performance anxiety into physical and psychomotor symptoms, thus differentiating between physiological fate and the muscles' reaction thereto.

Cognitive aspects of performance anxiety can include the ruminations both before and during performance. It seems as if performing artists are preoccupied with disastrous thoughts. Steptoe (1987:3) calls these cognitions **catastrophising** thoughts. The performer experiences increased worry and self-doubts. The greatest worry is usually about forgetting the music, *going blank* in lay terms. This worry is coupled with the soloist being easily distracted and unable to focus attention. A state of mental confusion and disorientation could also exist. The performer anticipates mistakes, and this enhances memories of previous mistakes made during practice or performance. The performer also possesses exaggerated beliefs of the importance of the performance and the consequences thereof. This leads to the performer projecting criticisms or comments by those in the audience. Such cognitions often have their origins in insufficient practice and low self-esteem. If a person is psychologically unbalanced with a low self-esteem, such catastrophising and negative cognitions surface readily.

Behavioural manifestations may include any of the following:

- an attempt to avoid the performance situation entirely,
- making excuses for mistakes long before a performance. Because a performance is the showroom of the artist's personality, the artist usually wants something external of the artist self to blame in case something does go wrong:

"I only started practising the piece two weeks back;

It will only be the second time that I play through the

piece, so I just hope for the best;

I did not sleep well the past week, so I am very tired."

Such excuses are natural, but it also indicates that a low self-esteem is taking the better of the performer. With statements like the above mentioned, the performer is creating a back door by which, if something does go wrong, the performer can be excused. In most of these cases there is no justification for any of the excuses made - a lack of trust and self-confidence are experienced. Such behaviour must be prevented by building self-esteem through practice. Teachers should also be sensitive towards such students, inspiring them to achieve greater heights.

- behaviour immediately before a performance, such as backstage pacing to and fro, shaking the arms and legs, sighing and yawning.[4]

- facial expressions and other body language during the performance.[5]

The emotional responses to anxiety include fear, anger, embarrassment, excitement, panic, depression, desperation, and even denial. The performer can experience any of these emotions, and sometimes even a few of them in rapid succession.

[4]Sighing and yawning are consequences of irregular breathing which follow because of the autonomic responses to performance anxiety. It is a big part of a performer's behaviour immediately before a concert, it is mentioned as behavioural manifestations. Frequently visiting the bathroom can also be cataloged under behavioural manifestations although it also has its roots in physiology.

[5]Such body language can include any of the following: an awkward, unnatural walk to the piano; a stiff bow; stiff and uncharacteristic posture at the instrument; fiddling with the hands and the piano bench; wiping the hands; hands and knees shaking, and feet trembling on the pedals; quick, restless movements of the arms and hands to and from the keyboard; shrugging the shoulders; moistening the lips; a dull expression combined with paleness, etc.

The physical symptoms of performance anxiety are well known to every performer. These symptoms can be subdivided into (i) physiological manifestations of the autonomic nervous system, (ii) psychomotor disturbances, and (iii) the physical symptoms that occur when the performance is part of the past.

Arousal of the human nervous system, which consists of the central and peripheral nervous systems, is essential for a human being's survival in situations of physical danger. Signals from the central nervous system are sent down the spinal chord to stimulate the peripheral nervous system. The latter is divided into the sympathetic and parasympathetic nervous systems. The sympathetic nervous system responds to a threat in a way that enhances the body's defense mechanisms and decreases the systems not needed in a dangerous situation (Sataloff *et al* 1999:122-123). Although a performer's perceived dangers are not of a physical nature but rather of a psychological nature, the physiological responses are the same. If the anxiety levels are balanced and ideal for a performance, the autonomic responses seem to be to the performer's advantage. But, more often than not, these responses are counterproductive (Lederman 1999:117-118, Reubart 1985:7-9, Sataloff *et al* 1999:124):

- An increase in heart rate is due to the increase in blood that is being pumped to the muscles to enable quick reaction.

- A rise in blood pressure results from peripheral vasoconstriction[6] which, in turn, causes cold hands, fingers and feet. The vessels of the face, neck and upper trunk tend to dilate causing a flushing and/or blushing effect.

[6]The purpose of peripheral vasoconstriction is to minimise bleeding if the person is wounded in battle.

- The purpose of deep and rapid breathing is to provide more oxygen for the muscles and cardiovascular system in general. Hyperventilation may cause chest pain, muscular irritability, lightheadedness, blurred vision, and an inability to concentrate[7], thereby impeding the artist's performance ability.

- Cold sweat precedes the warm sweat of actual muscular activity. Sweating in the palms of the hands and in the soles of the feet is to better equip a person for a speedy departure from the frightful scene. This sweating can often lead to the lubrication of the keyboard causing inaccuracies.

- Gastro-intestinal problems, including nausea, vomiting, and loss of appetite, occur to inhibit digestive functions so that more blood will be available for the muscles.

- Adrenal activity increases.

- There is a rise in the amount of sugar supply for energy.

- Dryness in the mouth, often coupled with experiencing difficulty with swallowing, is a sympathetic response to the suspension of gastric juice flow. It is revealed in the frequent licking of the lips.

- When an upcoming threatening situation is known to a person, insomnia often occurs because of anxiety experienced long before the actual event.

When the threat is dealt with, thus, when the performance is part of the past, a headache

[7]Hyperventilation causes the blood vessels supplying the brain to constrict, leading to the symptoms mentioned.

and backache could surface because of the great amount of tension which is suddenly dissolved. Fatigue will step in, and the feeling of an anti-climax will contribute to this feeling of exertion.

Not all of these manifestations occur every time performance anxiety is experienced. It has already been said that the levels of performance anxiety differ from person to person, and from performance to performance. Since all the symptoms of performance anxiety are now known to the reader, the reasons why performance anxiety occur should be investigated.

5.3 Possible Reasons for Performance Anxiety

A certain degree of performance anxiety is necessary for an exciting performance. In 1908 R.M. Yerkes and J.D. Dodson, quoted by Reubart (1985:13), reached the conclusion that,

> "...up to a point, the effective realisation of a task increases
> as the level of anxiety increases, however,
> when it increases beyond a certain point, efficiency decreases."

Therefore the reasons for **extreme** performance anxiety levels should be investigated.

Behavioural psychology recognises three sources of anxiety response of which two involve learning from other human beings: by means of "modeling," and through instruction and information (Reubart 1985:32). Thus it is derived that, if a young pianist observes anxious behaviour as a prevalent response to the conditions of performance, it will be learned

that performance anxiety is the "normal" response to a performance. If a young musician never hears about performance anxiety, and never sees such anxious behaviour, it could be possible that the young musician may never know what it is. Although the "modeling" concept is not the primary source of performance anxiety, it still plays a role in a musician's experience of performance anxiety.[8]

One of the major reasons for performance anxiety is insufficient practice. If a piece has not been practised and memorised efficiently, no confidence and security can be gained by knowing that a piece is well-studied. In such cases memory lapses are prevalent. In the case where a piece has been studied carefully, the performer should be able to draw on the trust which evolves from thorough preparation. Often musicians doubt their memory although they have played a piece from memory numerous times. Most of the time this is a sign of a low self-esteem. When such insecurities are experienced during a performance, the musician tries to remember the notes. Trying to remember the notes brings the note-name and note-location into conscious awareness. When such recall seems to be unsure cognitively, anxiety will be experienced. A performer should never try to remember the notes when insecurity occurs, but rather trust the auditory and muscular memory to save the moment. In such cases the performer should let go and let be.

Performers experience difficulty with regard to technique, memory or interpretation in every piece. Before going on stage the performer should know that each of these passages

[8]The following is an illustration of this concept: the author has on numerous occasions encountered fellow-students who experienced performance anxiety when entering the conservatory while other students were playing their examinations. These students experienced performance anxiety in sympathy with their fellow-students, and in anticipation of their own examination which was yet to come just because the whole environment was highstrung with performance anxiety.

has been mastered previously. Without this confidence, performance anxiety will surface. When performing, thinking and concentrating on these passages enhance access to memories of mistakes and feelings of humiliation (Sataloff *et al* 1999:124). The performer should never anticipate mistakes, nor try too hard to **get it right**, but rather put trust in the ability to perform the piece.

Performance anxiety can quite often be the result of structural (physical) incompatibility between the body and the instrument (Reubart 1985:31). Muscular tension[9] can result because of this incompatibility. If an amount of muscular tension called for in a performance is within efficient range, performance anxiety is less likely to occur, but in the opposite case performance anxiety will most likely be triggered. Tension and relaxation must become effortless, otherwise performance anxiety will surface (Reubart 1985:141). Often technical problems occur because of physical deficiencies, e.g. pianists with small hands struggle with octave passages. Technique is often wrongly accused as a source of performance anxiety: technical insecurity is more likely to be a result of anxiety[10] (Reubart 1985:122). According to Reubart (1985:29) the source of performance anxiety can be sought, more efficiently, in musical insecurities such as low auditory awareness, low capacity for musical imagery, low rhythmic awareness, and low intellectual capacity. Pianists with high intellectual capacity and broad interests are usually the best able to cope with performance anxiety. Low

[9]Muscular tension can be a cause and/or result of performance anxiety. It can cause performance anxiety when the amount of muscular tension called for in a piece is not within the performer's efficient range. Muscular tension resulting from performance anxiety has its roots in the physiological response to a threatening situation (this has already been mentioned in section 5.2)

[10]One example of technical insecurity caused by anxiety is fingers not able to work in runs because of cold hands (the latter, of course, a physiological response to anxiety).

auditory awareness and a low capacity for musical imagery can contribute to the fear of a memory failure, which, in turn, contributes greatly to performance anxiety (Shockley 1986:20). A lack of tonal and harmonic memory leads to an overall feeling of insecurity with regard to memory, causing performance anxiety. Not being able to internalize the music is also a result of an insecure memory. According to Reubart (1985:30) feeling the rhythm of the music in the body lessens the influence of performance anxiety, thus the lack thereof causes anxiety.

Mental anxiety is experienced because of a lack of confidence and the fear of an unsuccessful performance (Grindea 1978:105). Exaggerated beliefs of the importance and the consequences of the performance exist. To be scrutinised, judged, and negatively evaluated by the audience is a psychic threat to the performer (Sataloff *et al* 1999:123). Performing consists of sharing the inner soul with the audience. To know that this, the core of an artist's soul, character, and personality will be criticised, causes anxiety. A musician should possess a good, healthy self-esteem to be a successful performer. Without a good, healthy self-esteem, the chances of a good performance are slim. Low self-esteem as a pianist is an emanation of previous failures. It can also have its roots in the home-environment, e.g. parents not supporting their child, or a former teacher who did not believe in the student's abilities and only criticised instead of building a positive self-esteem.

The most popular causes of extreme performance anxiety are thus insufficient practice (including memory insecurity) and a low self-esteem. These matters should receive attention to enable a performer to function positively during a performance, giving an exciting

concert of good quality.

5.4 Coping with Performance Anxiety

Reubart (1985:vii) tells a story of how he once had to yield to the overpowering effects of performance anxiety:

One day he came upon a contest which involved throwing a frisbee through a tire a few feet away. Because his aim was fairly decent, he decided to compete. His first and second shots went cleanly through the tire. However, when the announcer saw that the contestant had a chance of winning the prise, he began drumming up an audience. When the crowd formed, Reubart started to get anxious. His arms and feet refused to move as they should and the results were predictable - failure. This troubled him and for a few days he tried to find an explanation. He realised that, because throwing a frisbee always was an unconscious act for him, he could not do it with conscious awareness. If he had been a little more aware earlier of what he actually had to do when throwing a frisbee, he would probably not have forgotten it when under pressure.

The moral of Reubart's story, is that the first and utmost cure for performance anxiety lies in the preparation.[11]

Because insecurity and performance anxiety are influenced negatively by previous failures, it is advisable to perform a very well-known piece first. This ensures a more secure feeling

[11] How to practise a piece and how to memorise it has already been discussed in Chapters 3 and 4.

for the performer which will more likely lead to a good performance. In this way confidence is built, and confidence is the best way to deal with anxiety (Grindea 1978:foreword).

Green with Gallwey (1987:130) makes the following suggestions:

- When paralysed with fear of the consequences of a performance, the artist's goals[12] should be reassessed.
- When experiencing doubt and fear, the performer should trust in his/her own abilities.
- When a problem with concentration exists, the performer should focus on what is at hand.

Stanislavski, referred to by Reubart (1985:45), speaks of a **circle of attention** to illustrate concentrated awareness. He suggests an imaginary circle of light which is surrounded by darkness. All that is within this circle are foci of attention, with the attention restrained from straying beyond the circle's circumference. In other words, concentrated attention is focused upon selected objects that are essential to the act of performance; awareness assumes the exclusion of disruptive elements from the domain of the **circle**. The idea postulated is to concentrate and to focus attention on what is being done at the moment. This involvement of the mind and will should be concerned with the result of an act rather than with the act itself. This means that the performer should not think of how a certain passage must be played, but rather of how it should sound. Koehler (1997a [online]) makes

[12] A performer's goals should never be to impress the audience, but to enjoy making music.

the following suggestions to help a performer achieve the best results during a performance: The performer should not

- think too much
- focus on the past or future[13]
- try too hard
- be too critical of the performance

Ultimately, the musician should concentrate on the moment and make music of that moment. When this is the object of a performance, this author believes that anxiety levels will be reduced.

As mentioned before, one of the symptoms of performance anxiety is deep and rapid breathing. Hyperventilation can cause more anxiety, thus creating a vicious circle. Therefore it is important to maintain the free flow of breath. Grindea (1978:108) suggests doing the following three-step exercise to regulate the breathing:

1. Inhale, slowly, while slowly counting 1 - 2.
2. Hold the breath without tensing the body, counting 1 - 2 - 3 - 4.
3. Breathe out, slowly counting 1 - 2.

[13]The ability to perform without a memory lapse asks for a perfect composition between past, present and future (Nina Schumann 1999:Personal Interview).

One slight exhalation, acting on the diaphragm, is sufficient to unleash inner tensions.[14] According to Grindea (1978:109) many of the problems caused by tension can be solved by giving more importance to the freedom of breathing. Reducing excessive muscular tension[15] also lessens the negative effect of performance anxiety. The rhythm of the music can be felt in the body and also used to decrease the degree of performance anxiety (Reubart 1985:88).

In the end, no performer can hope for much relief from anxiety until the performer's entire life is under control (Reubart 1985:11). Furthermore, the existence of anxiety should be admitted. Many musicians deny experiencing performance anxiety. Perhaps they think that if they deny experiencing it, it will disappear. Unfortunately, this is not true. Often denying something leads to it becoming worse. Performance anxiety should be discussed freely, but without dwelling too much on it (Bryant 1999:32). In other words, performance anxiety should not be handled as if it were a disease, but rather as an everyday experience.

If excessive performance anxiety still prevails after thorough practise and after the previously mentioned aspects were applied, other strategies to overcome such anxiety should be resorted to. Among these strategies are relaxation techniques, and behavioural and cognitive strategies. Relaxation techniques include yoga exercises, the Alexander Technique, breathing exercises and posturing.[16] According to Reubart (1985:175) an hour of these exercises is an hour better spent than an hour at the instrument - that is if

[14]Many performers inhale and exhale deep and moderately slow just before walking on stage. Quite often this is being done without the performer knowing that it has a calming effect.

[15]Shoulders being pulled up is a common sign of excessive muscular tension.

[16]Since these methods are not the focus point of this thesis, the reader is advised to do some self-study.

performance anxiety is experienced excessively. Psychotherapy involves behavioural and cognitive strategies. Excessive behaviour is analysed in order to reduce that behaviour which is experienced as excessive. Cognitive strategies include building the performer's self-esteem, as well as teaching the performer to think positively. Multiple strategies are the most rewarding because more than one angle is used in order to relieve the performer from excessive performance anxiety (Esplen and Hodnett 1999:127).

Since ancient history chemical substances[17] were used to alleviate performance anxiety. Alcohol is often used to alleviate performance anxiety. It acts primarily as a central nervous system depressant, although it may, by suppressing inhibitions, appear to act as a stimulant. True nervous system stimulants have also been used, primarily in the expectation that they will enhance performance in some way. These have included marijuana as well as lysergic acid diethylamide (LSD). These chemicals have obvious hazards which need not be mentioned, including their illegal status (Lederman 1999:119). Benzodiazepines, especially diazepam (e.g. Valium), lorazepam (e.g. Ativan) and alprazolam (e.g. Xanax), have become increasingly popular to suppress the uncomfortable symptoms of anxiety since the early 1960's (Lederman 1999:119). Despite the contra-indications[18] of sedation, dizziness, weakness, ataxia, decreased motor performance, and mild hypertension, it is a commonly prescribed anxiolytic because of its rapid, effective relief (Sataloff *et al* 1999:124). Buspirone (e.g. Buspar) is an anxiolytic without the risk of tolerance, dependence, or abuse. It is generally not sedating but it takes several weeks before reaching therapeutic levels and

[17]Because chemical substances are often misused, a quick overview is given on this subject.
[18]These drugs are also potentially addictive (Sataloff *et al* 1999:124).

efficacy. Side-effects include mild degrees of headache, nausea and dizziness (Sataloff *et al* 1999:124).

Anti-depressants are excellent alternatives in many patients with chronic anxiety. This include fluoxetine-HCl (e.g. Prozac), setraline-HCl (e.g. Zoloft), fluroxamine maleate (e.g. Luvox), and paroxetine-HCl (e.g. Paxil). These drugs have been used to treat anxiety-related disorders such as depression, social phobia, and obsessive-compulsive disorder. They are well tolerated and used more commonly than other anti-depressants (Sataloff *et al* 1999:125). Beta-blockers were initially cultivated to alleviate the effects of stress upon sufferers of cardio-vascular disorders (Reubart 1985:201). Recently these drugs were even used for migraine (Lederman 1999:119). The drug is helpful in reducing symptoms and improving performance. It blocks the effects of adrenaline upon the heart and other organs which induce further adrenal release, thus breaking the feedback loop which causes anxiety to *feed upon itself* (Reubart 1985:202). Despite the apparent success and safety of beta-blockers when used for performance anxiety, there are several known clinical contra-indications to the use thereof (Lederman 1999:120):

- It should not be prescribed to anyone with asthma or bronchospasm because of the drugs' effects on the bronchial system.
- Beta-blockers have generally been thought to aggrevate congestive heart failure, although there have been benefits in some patients with heart disease.

- In diabetic persons prone to hypoglycemic episodes, beta-blockers can mask the warning signs of low blood sugar, making its recognition difficult.
- Fatigue has been a common complaint among those taking the drug regularly.[19]
- There is concern regarding the association between beta-blockers and depression.

Many performers use beta-blocking medication without medical supervision. Without the knowledge of the side-effects, and without knowing how many milligrams should be used, the use of the drug can turn out to be dangerous (Nagel *et al* 1989:13). The two drugs which are mentioned the most are propranolol and oxprenolol. Of these two, propranolol (e.g. Inderal)[20] is most commonly used. It is advisable to have a trial-run with the drug before a concert to make sure that none of the side-effects will be experienced. A single low dosage of a beta-blocker (e.g. 10-40mg of Inderal) administered 60-90 minutes before the performance is usually sufficient.

Concerns will arise when a performer's need for medication increases in frequency because this could represent a form of psychological dependence (Lederman 1999:120, Reubart 1985:202). Although beta-blockers are effective in controlling performance anxiety, Reubart (1985:203), Sataloff *et al* (1999:126), and Nagel *et al* (1987:13) are unanimous about the fact that medication should be combined with other coping strategies such as psychotherapy.

[19]Musicians often complain that their arms feel heavy when the drug has been used. In these cases they feel so tired that they think it is impossible to play through the whole piece.

[20]Propranolol increases salivation and is therefore not suitable to be used by singers or windplayers (Sataloff *et al* 1999:124).

The way to solve problems is to discipline the mind and body - not by resorting to pharmacology. Reubart (1985:201) feels strongly about the use of medication for performance anxiety:

> "In an art which reflects the Person as much as does piano playing,
> I dislike the idea of an intrusion
> by something inorganic and exterior to the Person."

This author tends to agree with Reubart's statement.

5.5 Conclusion

Performance anxiety is experienced by every person. Whether an athlete is running a marathon, or a politician is giving a speech, all experience anxiety caused by a performance of some kind. Anxiety occurs in every facet of life. It is not abnormal to experience anxiety because it is the way people are made: they feel endangered and physiology responds with the symptoms mentioned previously in this chapter. It is part of the survival instinct of the human race. However, performance anxiety has nothing to do with the survival of the fittest, but rather with a psychological idea postulated by fellow humans. Nevertheless, physiology's response indicates that anxiety is experienced.

According to Moriz Rosenthal, referred to by Young (1996:9), stage fright (performance anxiety) is the only lucid moment in an artist's career. Unfortunately, this lucid moment

is often too much for a performer to bear, thus decreasing the artist's performance quality. The challenge for the performer is not to try to eliminate performance anxiety, but to accept it and work with it. Nervous tensions can be changed into productive energy and transformed into a sense of assurance (Triplett 1983:v), but as long as performance anxiety is seen as a fatal disease it will most definitely have a negative influence on performance quality.

"Whoever is educated by anxiety

is educated by possibility,

and only he who is educated by possibility

is educated according to his infinitude."

-Soren Kierkegaard

Chapter 6

Conclusion

For the performing artist memorisation and performance anxiety are part of everyday life. Unfortunately, these two factors are often the reasons why a musician changes career. Such a drastic move is unnecessary and should be avoided. The purpose of this study was to inform the reader of the many ways in which memorisation and performance anxiety can manifest themselves. Solutions were sought to overcome and work with these two stumbling blocks.

Some musicians seem to see playing from memory as a highly, unreachable skill. However, this is not the case. Everybody can memorise music and play from memory. Some musicians just find it difficult, even exhausting, because their memories are untrained. Such musicians should start memorisation with memorising an easy piece. In this way, the goals

set out can be achieved and confidence can be built from the start. The author has proposed an approach to memorisation consisting of six phases. The first four phases involve the actual memorising process: pre-study, practise at the instrument, practise away from the instrument, and testing the memory. The last two phases of the proposed approach involve the playing from memory: giving mock recitals, and the success achieved when the musician feels confident and secure with playing from memory.

To survive the psychological warfare a performing career entails, a musician needs self-confidence and a healthy self-esteem. Confidence can be built in the practice room and by giving mock recitals. Practice must take place on a regular daily basis. The performer should remember that quality, i.e. the productiveness of the practice time, is not necessarily parallel with quantity, i.e. the hours spent practising. Often mistakes are being practised during practice sessions. Musicians should try to avoid such faulty practising. To achieve the best results in practising and memorising, the musician must be well-rested, in good health, on a healthy diet, and alert, eager and attentive.This also applies to performing music in front of an audience.

There are many causes for memory lapses, and performance anxiety is often blamed for an insecure memory. On the other hand, playing from memory causes the degrees of performance anxiety to increase. However, memorisation cannot be blamed for severe performance anxiety, and performance anxiety cannot be blamed for memory insecurities. According to this author, both memory insecurity and severe performance anxiety have their roots in the same place, that being a lack of practice and/or a lack of self-confidence.

Quite often performance anxiety is dismissed by pedagogues saying:

"There is nothing to it; you just play the piece
as you have many times before;

"You know the piece well enough;

"There is no need to be anxious."

These, and other well-known statements, are given with the purest of intentions: to comfort the student. But, denying performance anxiety will not make it go away, just as denying cancer will not cure it. Admitting the existence of a problem is the first step to making progress with regard to that problem. Performance anxiety should be a subject freely discussed without pondering on it too much. Only then can the performer realise that performance anxiety is something every performer experiences, although in different degrees. Unfortunately performance anxiety cannot be eliminated as a whole, but it can facilitate an exciting performance. When a performer is struggling with severe performance anxiety, the performer's goals should be re-evaluated. The object of a performance should be to revelate an art, to make music, to feed the listener's soul. Performing must never revolve around the artist; indeed it must revolve around art. As Keeney (1979:41) wrote:

"...let me lose all consciousness of self;
let me live in the music."

Although memorisation and performance anxiety will never be dismissed as performers'

problems, they can be overcome.

Further study could investigate different individuals struggling with memorisation according to their ability to retain the different components of music, for example melody, harmony, rhythm, dynamics, phrasing. Through such investigation the individual's weak point(s) can be established. Knowing which component(s) is/are neglected most, such negligence can be prevented in future memorisation trials, assuring a more secure memory. Research could be done on a number of these musicians struggling with memorisation in order to draw statistics showing which component(s) is/are neglected by most musicians. Emphasising the practice of these component(s) can provide a more secure memory from the start. Such security will reduce the degree of performance anxiety experienced. This can, in turn, facilitate a performance of musical value instead of one during which the performer is pre-occupied with remembering the notes.

With everything said and done, the author leaves the reader with the wise words spoken by Franz Liszt:

"Never mind the notes, just play!"

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